SEQUENCE LISTING

<110> WEI, Ming-Hui et al.

<120> ISOLATED HUMAN ENZYME PROTEINS, NUCLEIC ACID MOLECULES ENCODING HUMAN ENZYME PROTEINS, AND USES THEREOF

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<140> 10/644,021
<141> 2003-08-20

<150> 09/820,004
<151> 2001-03-29

<160> 61

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<213> Homo sapiens

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Gln Thr Ser Arg Ser Phe Ala Ala Val Ile Gln Ala Leu Asp Gly Glu
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Met Arg Asn Ala Val Cys Ile Phe Tyr Leu Val Leu Arg Ala Leu Asp
65                  70                  75                  80
Thr Leu Glu Asp Asp Met Thr Ile Ser Val Glu Lys Lys Val Pro Leu
                85                  90                  95
Leu His Asn Phe His Ser Phe Leu Tyr Gln Pro Asp Trp Arg Phe Met
            100                 105                 110
Glu Ser Lys Glu Lys Asp Arg Gln Val Leu Glu Asp Phe Pro Thr Ile
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Ser Leu Glu Phe Arg Asn Leu Ala Glu Lys Tyr Gln Thr Val Ile Ala
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Asp Ile Cys Arg Arg Met Gly Ile Gly Met Ala Glu Phe Leu Asp Lys
145                 150                 155                 160
His Val Thr Ser Glu Gln Glu Trp Asp Lys Tyr Cys His Tyr Val Ala
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Gly Leu Val Gly Ile Gly Leu Ser Arg Leu Phe Ser Ala Ser Glu Phe
            180                 185                 190
Glu Asp Pro Leu Val Gly Glu Asp Thr Glu Arg Ala Asn Ser Met Gly
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Leu Phe Leu Gln Lys Thr Asn Ile Ile Arg Asp Tyr Leu Glu Asp Gln
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Lys Lys Leu Gly Asp Phe Ala Lys Pro Glu Asn Ile Asp Leu Ala Val
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Gln Cys Leu Asn Glu Leu Ile Thr Asn Ala Leu His His Ile Pro Asp
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Val Ile Thr Tyr Leu Ser Arg Leu Arg Asn Gln Ser Val Phe Asn Phe
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Cys Ala Ile Pro Gln Val Met Ala Ile Ala Thr Leu Ala Ala Cys Tyr
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Asn Asn Gln Gln Val Phe Lys Gly Ala Val Lys Ile Arg Lys Gly Gln
305                 310                 315                 320
Ala Val Thr Leu Met Met Asp Ala Thr Asn Met Pro Ala Val Lys Ala
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Ile Ile Tyr Gln Tyr Met Glu Glu Ile Tyr His Arg Ile Pro Asp Ser
            340                 345                 350
Asp Pro Ser Ser Ser Lys Thr Arg Gln Ile Ile Ser Thr Ile Arg Thr
        355                 360                 365
Gln Asn Leu Pro Asn Cys Gln Leu Ile Ser Arg Ser His Tyr Ser Pro
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Ile Tyr Leu Ser Phe Val Met Leu Leu Ala Ala Leu Ser Trp Gln Tyr
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<212> PRT
<213> Homo sapiens

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Gln Thr Ser Arg Ser Phe Ala Ala Val Ile Gln Ala Leu Asp Gly Glu
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Met Arg Asn Ala Val Cys Ile Phe Tyr Leu Val Leu Arg Ala Leu Asp
65   70   75   80
Thr Leu Glu Asp Asp Met Thr Ile Ser Val Glu Lys Lys Val Pro Leu
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Leu His Asn Phe His Ser Phe Leu Tyr Gln Pro Asp Trp Arg Phe Met
            100   105   110
Glu Ser Lys Glu Lys Asp Arg Gln Val Leu Glu Asp Phe Pro Thr Ile
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Ser Leu Glu Phe Arg Asn Leu Ala Glu Lys Tyr Gln Thr Val Ile Ala
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Asp Ile Cys Arg Arg Met Gly Ile Gly Met Ala Glu Phe Leu Asp Lys
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His Val Thr Ser Glu Gln Glu Trp Asp Lys Tyr Cys His Tyr Val Ala
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Gly Leu Val Gly Ile Gly Leu Ser Arg Leu Phe Ser Ala Ser Glu Phe
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Leu Phe Leu Gln Lys Thr Asn Ile Ile Arg Asp Tyr Leu Glu Asp Gln
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Gln Gly Gly Arg Glu Phe Trp Pro Gln Glu Val Trp Ser Arg Tyr Val
225   230   235   240
Lys Lys Leu Gly Asp Phe Ala Lys Pro Glu Asn Ile Asp Leu Ala Val
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Gln Cys Leu Asn Glu Leu Ile Thr Asn Ala Leu His His Ile Pro Asp
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Val Ile Thr Tyr Leu Ser Arg Leu Arg Asn Gln Ser Val Phe Asn Phe
        275   280   285
Cys Ala Ile Pro Gln Val Met Ala Ile Ala Thr Leu Ala Ala Cys Tyr
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Ile Ile Tyr Gln Tyr Met Glu Glu Ile Tyr His Arg Ile Pro Asp Ser
            340   345   350
Asp Pro Ser Ser Ser Lys Thr Arg Gln Ile Ile Ser Thr Ile Arg Thr
        355   360   365
Gln Asn Leu Pro Asn Cys Gln Leu Ile Ser Arg Ser His Tyr Ser Pro
    370   375   380
Ile Tyr Leu Ser Phe Val Met Leu Leu Ala Ala Leu Ser Trp Gln Tyr
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35 40 45
Gln Thr Ser Arg Ser Phe Ala Ala Val Ile Gln Ala Leu Asp Gly Glu
50 55 60
Met Arg Asn Ala Val Cys Ile Phe Tyr Leu Val Leu Arg Ala Leu Asp
65 70 75 80
Thr Leu Glu Asp Asp Met Thr Ile Ser Val Glu Lys Lys Val Pro Leu
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Leu His Asn Phe His Ser Phe Leu Tyr Gln Pro Asp Trp Arg Phe Met
100 105 110
Glu Ser Lys Glu Lys Asp Arg Gln Val Leu Glu Asp Phe Pro Thr Ile
115 120 125
Ser Leu Glu Phe Arg Asn Leu Ala Glu Lys Tyr Gln Thr Val Ile Ala
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Asp Ile Cys Arg Arg Met Gly Ile Gly Met Ala Glu Phe Leu Asp Lys
145 150 155 160
His Val Thr Ser Glu Gln Glu Trp Asp Lys Tyr Cys His Tyr Val Ala
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Gly Leu Val Gly Ile Gly Leu Ser Arg Leu Phe Ser Ala Ser Glu Phe
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Glu Asp Pro Leu Val Gly Glu Asp Thr Glu Arg Ala Asn Ser Met Gly
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Leu Phe Leu Gln Lys Thr Asn Ile Ile Arg Asp Tyr Leu Glu Asp Gln
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Gln Gly Gly Arg Glu Phe Trp Pro Gln Glu Val Trp Ser Arg Tyr Val
225 230 235 240
Lys Lys Leu Gly Asp Phe Ala Lys Pro Glu Asn Ile Asp Leu Ala Val
245 250 255
Gln Cys Leu Asn Glu Leu Ile Thr Asn Ala Leu His His Ile Pro Asp
260 265 270
Val Ile Thr Tyr Leu Ser Arg Leu Arg Asn Gln Ser Val Phe Asn Phe
275 280 285
Cys Ala Ile Pro Gln Val Met Ala Ile Ala Thr Leu Ala Ala Cys Tyr
290 295 300
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305 310 315 320
Ala Val Thr Leu Met Met Asp Ala Thr Asn Met Pro Ala Val Lys Ala
325 330 335
Ile Ile Tyr Gln Tyr Met Glu Glu Ile Tyr His Arg Ile Pro Asp Ser
340 345 350
Asp Pro Ser Ser Ser Lys Thr Arg Gln Ile Ile Ser Thr Ile Arg Thr
355 360 365
Gln Asn Leu Pro Asn Cys Gln Leu Ile Ser Arg Ser His Tyr Ser Pro

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    370                 375                 380
Ile Tyr Leu Ser Phe Val Met Leu Leu Ala Ala Leu Ser Trp Gln Tyr
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Leu Ala Thr Leu Ser Gln Val Thr Glu Asp Tyr Val Gln Thr Gly Glu
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gccgctcgga agtgcgctgg gttctcttag cggccagtgg gttctggtga gaagggcaac 480
agcgggagga ggcgccggtg cggagcggga ggccgggggc ggggctgcgg ggctgcgggg 540
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t 601

<210> 18
<211> 601
<212> DNA
<213> Homo sapiens

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gctgaaggca ggccagagtt atcagacatc acctgaggga tggaggggga tgtggaacct 180
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gctgcggggc tgcggggcgg gcccgttgtg ggtcggccca gcgcgtattc gagtagaggg 540
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a 601

<210> 19
<211> 601
<212> DNA

<213> Homo sapiens

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g 601

<210> 20
<211> 599
<212> DNA
<213> Homo sapiens

<400> 20
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<210> 21
<211> 269
<212> DNA
<213> Homo sapiens

<400> 21
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agcttgtccg ggacytttga gtgtgttgga agctaccttt tgatatagcg ctcagcgttg 180
cagcctcgtt gctgtggctt atccagaaca tagcccggcc ctacgtgttt actttagaaa 240
gcccttccag gctctttgcc atctagtag 269

<210> 22
<211> 41
<212> DNA
<213> Homo sapiens

<400> 22
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<210> 23
<211> 601
<212> DNA
<213> Homo sapiens

<400> 23
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g 601

<210> 24
<211> 601
<212> DNA
<213> Homo sapiens

<400> 24
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agttctttag agttaagggt gagatgggtt tagaaagtgg ccaggcacaa gttattttaa 240
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ggtgagtggg gttacgcatc ttgtctacgg actgttgtgt tcataattgc taacgtggtt 540
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g 601

<210> 25
<211> 601
<212> DNA
<213> Homo sapiens

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yggtagccaa gactctgaag ccaggctgcc tgggttggaa tctcaaatct cccacttact 360
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tcttagaatg ttagctactg ctgttattat cagtattgga agtccagtgt ttcttcctgt 540
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g 601

<210> 26
<211> 601
<212> DNA
<213> Homo sapiens

<220>
<221> variation
<222> (301)...(301)

<223> 'T' can be either present or absent

<400> 26
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a 601

<210> 27
<211> 601
<212> DNA
<213> Homo sapiens

<400> 27
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cacccaaaca aaagaatctt tgattcttgg gcataatggg agcaatattt aaaaaaaaaa 600
a 601

<210> 28
<211> 601
<212> DNA
<213> Homo sapiens

<400> 28
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gaataattcg agtttataca gtacaattca agagaagaaa gaaaatttat gacgactagc 180
tgggtgagaa ttagaactgt aaccctggga aggtcctggt gatttgactc tcacaggaca 240
cctgatgacc agaggatggg tttcctttga tgggaaatct gtggcgattc attgatgggc 300
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tcacttaaaa acaactaata ttattctagc tggacctagc ctctagaaac agccaaatta 420
catttgactt gagtggattc ataataatta aaaaatttct ggggcatggg ataaatgtgt 480
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gtgtgaatgc taacataatt ttggggaata tcgccgtcag atttccagat gatattccaa 600
c 601

<210> 29
<211> 601
<212> DNA
<213> Homo sapiens

<400> 29

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a 601

<210> 30
<211> 601
<212> DNA
<213> Homo sapiens

<400> 30
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t 601

<210> 31
<211> 601
<212> DNA
<213> Homo sapiens

<400> 31
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taccaaacag tgattgccga catttgccgg agaatgggca ttgggatggc agagtttttg 180
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gattaaaact acacatcaaa acataaggta gggttaggag tcttgcctat ttttcatagg 540
aatggtgttt gtgagactta ctcatcactt ctgtggaagt aaagacattt tatttattta 600
t 601

<210> 32
<211> 601
<212> DNA
<213> Homo sapiens

<400> 32
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attccagagt taattccaaa ccagcagcta tgtaggatat cagccaggct aggagtaggg 120
tactggagag aagtgcttat ctagacaaag ggatgtaatt gaccatgaag attaaaacta 180

cacatcaaaa cataaggtag ggttaggagt cttgcctatt tttcatagga atggtgtttg 240
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g 601

<210> 33
<211> 601
<212> DNA
<213> Homo sapiens

<400> 33
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c 601

<210> 34
<211> 601
<212> DNA
<213> Homo sapiens

<400> 34
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a 601

<210> 35
<211> 315
<212> DNA
<213> Homo sapiens

<400> 35
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yggagtctca ctctg 315

<210> 36
<211> 601
<212> DNA
<213> Homo sapiens

<400> 36
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a 601

<210> 37
<211> 601
<212> DNA
<213> Homo sapiens

<400> 37
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g 601

<210> 38
<211> 601
<212> DNA
<213> Homo sapiens

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c 601

<210> 39
<211> 601

<212> DNA
<213> Homo sapiens

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cacatttaaa ctactctggg ggctgggcaa ggtggctcac gcctgtaatc tcaacactgg 600
g 601

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<212> DNA
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